POSTER 45: Assessment of different "Peste de Petits Ruminants" challenge models in Goats

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Introduction
Peste des petits ruminants (PPR), is an OIE Listed, acute contagious disease caused by a *Morbillivirus* in the family *Paramyxoviridae*. It affects mainly sheep and goats and occasionally wild small ruminants.

PPR was first identified in West Africa, in the 1940's and has progressively spread to East Africa, most of the Middle East, and parts of Asia including much of the Indian subcontinent.

The clinical disease resembles rinderpest in cattle. It is usually acute and characterised by pyrexia, serous ocular and nasal discharges, erosive lesions on different mucous membranes particularly in the mouth, diarrhoea and pneumonia.

While the disease is frequently dramatic in endemic countries, experimental inoculation in controlled conditions does not always allow reproduction of the disease.

Hereafter we report the assessment of 4 different conditions of experimental PPR virus challenges in goats.

Material and Methods
Animals: Sixteen, PPR naive, 10-months-old female goats (Saanen breed) were randomly allocated to 4 groups, balanced for bodyweights. Two groups (G1, G2) were housed separately in a high containment animal facility, while the 2 other groups (G3, G4) were housed similarly, in another high containment unit.

Challenge: 2 different isolates, one from Ivory Coast 89 (CI89) and the other from Morocco 2008 (M08) were multiplied in cell culture and freeze-dried. Each freeze-dried isolate was then resuspended in DMEM to a concentration of 5,000 TCID50/mL. Goats were then inoculated on D0 as follows:

G1: CI89; 2 mL Intra Nasal (1 mL per nostril, with a spray nozzle)
G2: CI89; 2 mL Intra Venous
G3: M08; 2 mL Intra Nasal (1 mL per nostril, with a spray nozzle)
G4: M08; 2 mL Intra Venous

Monitoring: Daily, from D0 to D14, all animals were monitored for clinical signs and rectal temperatures, and were sampled for assessment of viraemia (EDTA blood samples) and viral excretion (ocular swabs). Serum samples were taken at regular time points to assess seroconversion.

Results
CI89 IN challenge: clinical signs were very mild and virus was rarely detected in blood samples or swabs.

CI89 IV challenge: clinical signs were mild and virus was rarely detected in blood samples while more frequently detected in ocular swabs.

M08 IN challenge: frank, moderate, clinical signs were observed, starting 7 days after challenge. A moderate weight loss (- 2 Kg) over 14 days was observed. From day 6, virus was detected at moderate titres in blood samples and high titres (low Ct values) ocular swabs.

M08 IV challenge: severe clinical signs were observed, starting 5 days after challenge. Signs were such intense that all goats of that group were euthanized on ethical ground on D11. Within 11 days after challenge, an average bodyweight loss of 5 Kg was observed in that group. From day 4, virus was detected at moderate titres in blood samples and high titres (low Ct values) in ocular swabs.

All groups were found seropositive from day 8.

Conclusion
These results show that, in the condition of the study, the CI89 strain induces mild clinical signs. Conversely, M08 was able to induce moderate (IN route) to severe (IV route) clinical signs. The IV route of inoculation increased the level of both the clinical and virological parmeters, whatever the challenge strain.

Overall the results showed that the M08 is more virulent than CI89, both clinically and virologically in European Saanen goats.

The results further suggest that an incursion in Europe of a PPR virus isolate, similar to the one isolated in Morocco in 2008, might have a devastating impact on the small ruminant population.

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10th Annual Meeting

GOING VIRAL

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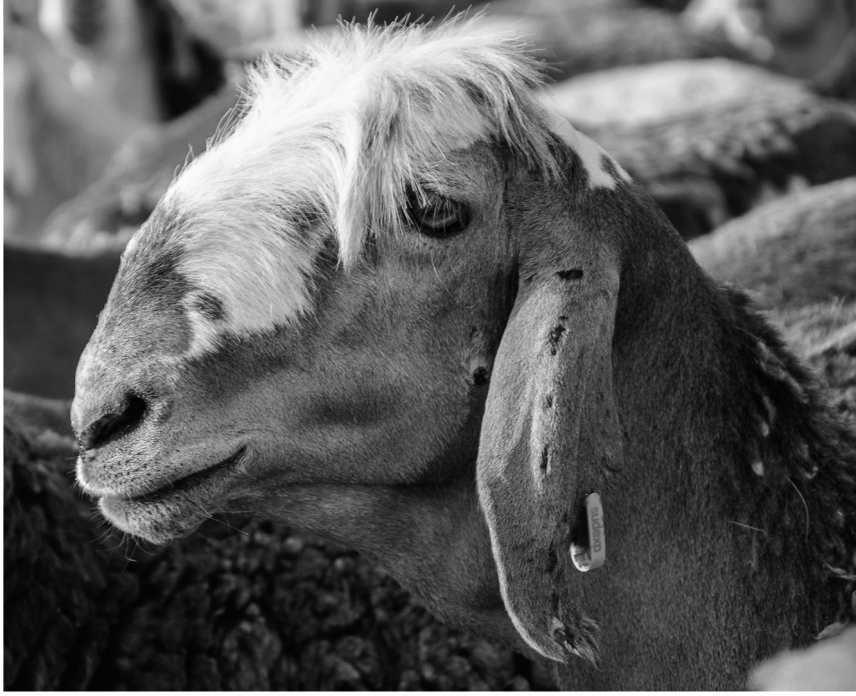

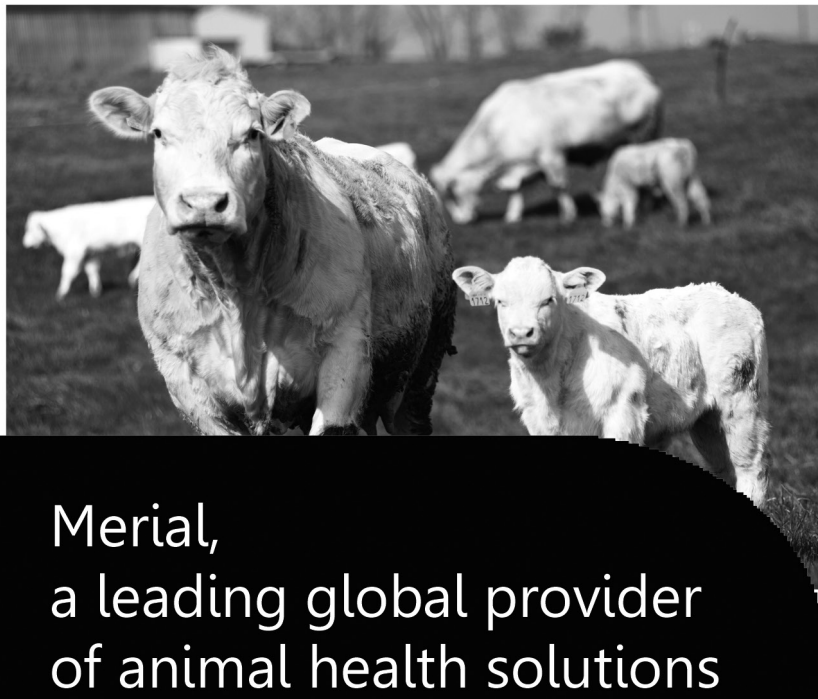

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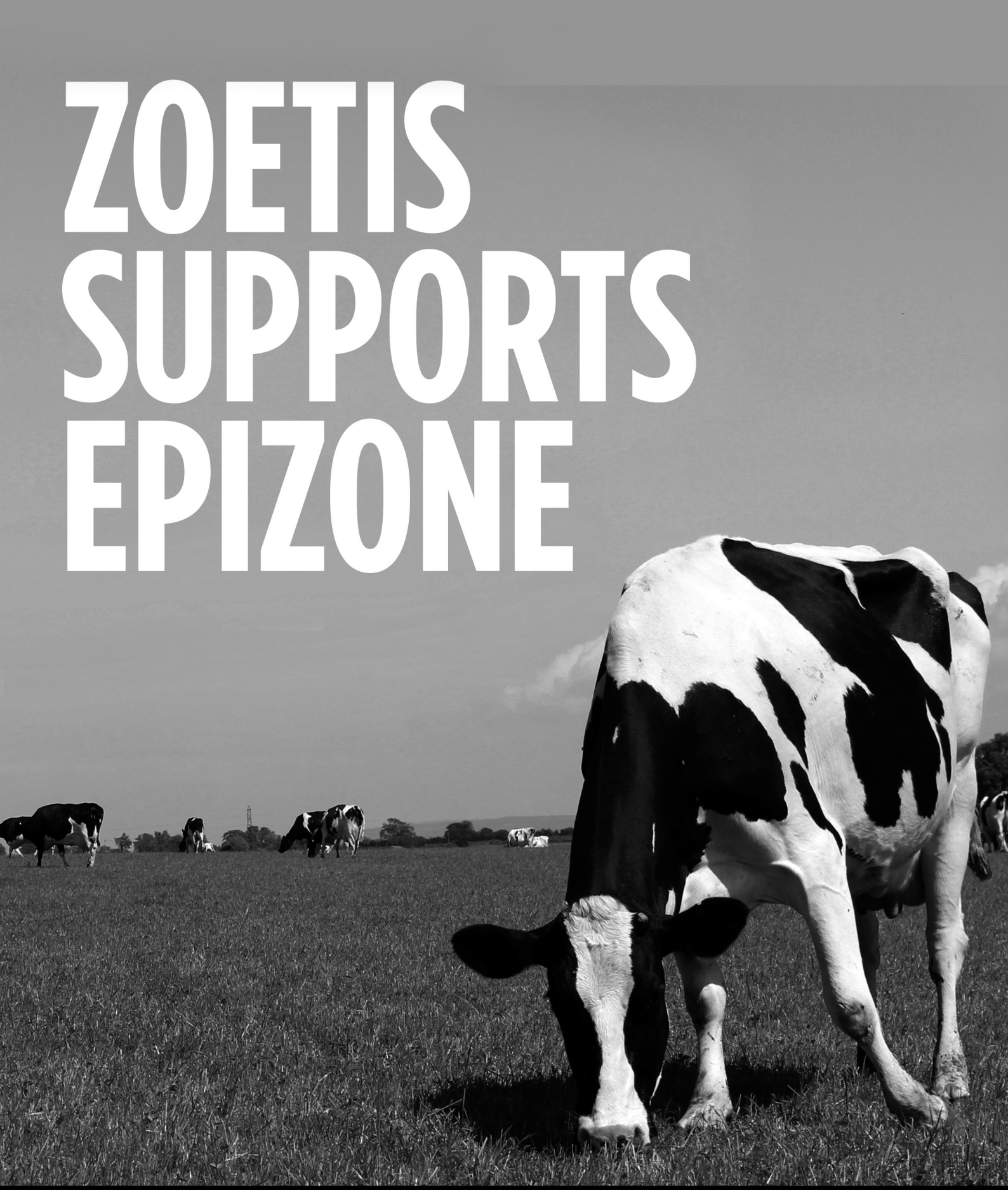

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Welcome
10th Annual Meeting EPIZONE "Going Viral"

It is a great honour and a privilege for me to give you all our warmest welcome to the Xth Annual Meeting of EPIZONE, the first to be celebrated in Spain. INIA-CISA, as the host institution, has been fully committed on this challenge from the beginning, and we do hope that the final result will be satisfactory for participants, sponsors and organizers. We wish to thank specially to them, as this event could not be possible without any of these essential parts. The financial support from sponsors, the availability and contributions from keynote speakers, the high scientific level of oral and poster presentations from participants and, at the end, curious, active and interested assistants, will contribute to the success of the meeting. From the organizing committee I want also to thank the EPIZONE secretariat and coordinator for their continuous help and implication in the effort. Finally, my gratitude to the people at the local and international scientific and organizing committees that have been working together very hard to yield a balanced, wide-scoped and intense (maybe too intense?) programme. Special thanks to Jovita Fernandez Piñero, who has been in charge of many tasks, and has fulfilled a brilliant labour. And will not forget about the enthusiastic Young Epizone people; thank you for your work and for organizing such a well-designed session.

Under the general title of "Going Viral", and from a *One Health* perspective, we have outlined three concentric circles defining the main topics:

Topic I: Animal Health in a changing World, dealing with global threats for animal health.

Topic II: Threats at the European border, paying attention to diseases in the neighbouring areas.

Topic III: Current challenges inside Europe, where the main diseases affecting the European countries will be discussed.

As in previous EPIZONE meetings, diagnostics, intervention strategies, epidemiology and surveillance, risk analysis and some other aspects will be approached by recognized experts in specific sessions. Many diseases which are familiar to us will receive attention, from Foot and Mouth Disease to West Nile Virus Disease or the more recent episodes by Lumpy Skin Disease, Pest des Petits Ruminants and some others. African Swine Fever and Bluetongue have been the most "popular" diseases among contributors, this revealing their current relevance.

I hope that the efforts of contributors, sponsors, participants and organizers will provide an opportunity for the "epizootic community" to work together, to plan new initiatives, to interact and to share a good time in Madrid.

Victor Briones

Acknowledgements

We are very grateful to the following companies for sponsoring the 10th Annual EPIZONE meeting:

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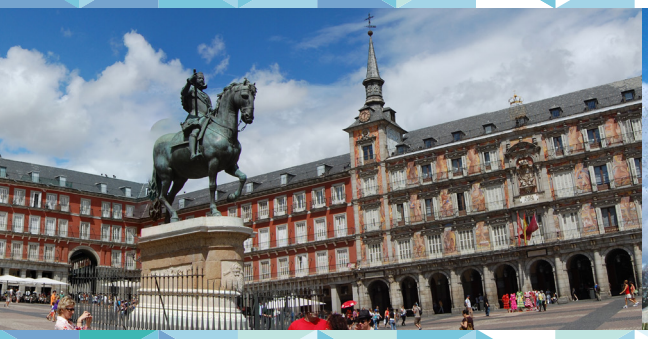

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